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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/501,657	01/14/2005	Odd Lovhaugen	30316.04015	5126

24024 7590 02/05/2009  
CALFEE HALTER & GRISWOLD, LLP  
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CLEVELAND, OH 44114

EXAMINER
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KUMAR, KALYANA VENKA K

ART UNIT	PAPER NUMBER
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3653

NOTIFICATION DATE	DELIVERY MODE
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02/05/2009

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

ipdocket@calfee.com  
dcunin@calfee.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/501,657	<b>Applicant(s)</b> LOVHAUGEN ET AL.	
	<b>Examiner</b> KALYANA VENKATESHWAR KUMAR	<b>Art Unit</b> 3653	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 30 September 2008.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 70,72,73,75-77,79,80,82-86 and 150-159 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 70,72,73,75-77,79,80,82-86 and 150-159 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 70, 72, 73, 75-77, 79, 80, 82-86 and 150-159 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Kumar (USP 6,795,179)** in view of **Ulrichsen et al. ("Ulrichsen EP")(EP 0 876 852 A1)**.

3. Kumar (Fig. 1-10) teaches a apparatus and method separating, from a mixture of objects, objects that exhibit a specific characteristic related color of the objects, which characteristic is not detectable by the naked eye or a color camera, comprising advancing said mixture (Fig. 2), determining, using radiation, whether a portion of said mixture exhibits said characteristic and separating from the mixture the objects exhibiting said characteristic as desired portions of the mixture, wherein said determining comprises analyzing in a plurality of narrow wavelength bands in the visible spectrum (Fig. 2, 4, 6, 8, 10; col. 10, ln. 44-66; col. 14, ln. 4 et seq. teaching subjecting objects to varying laser beam pulses and using spectral analysis obtained from the varied pulses through inputs using spectral filters operating at several narrow wavelength bands to sort objects). Kumar further teaches camera image interpretation (camera 36; col. 6, ln. 26-50; col. 11, ln. 24-35). Further, Applicant is respectfully

Art Unit: 3653

reminded that claim language consisting of functional language and/or intended use phrasing is given little, if any, patentable weight as the apparatus must merely be capable of functioning, or being used, as claimed. See MPEP 2112.02, 2114. Here, the apparatus as claimed is certainly capable of determining whether objects are not CMYK-printed objects, or other types of objects (e.g., tinted paper or board). Further, Applicant is respectfully reminded that the material or article (e.g., CMYK-printed object) worked upon by the apparatus does not limit apparatus claims. See MPEP 2115.

Kumar does not disclose the characteristic is detectable by spectral analysis but is not detectable by the naked eye or a color camera and wherein the determining comprises analyzing, in a plurality of narrow wavelength bands in the visible spectrum, such radiation reflected by the objects. Ulrichsen teaches disclose the characteristic is detectable by spectral analysis but is not detectable by the naked eye or a color camera and wherein the determining comprises analyzing, in a plurality of narrow wavelength bands in the visible spectrum, such radiation reflected by the objects (see Abstract, using reflected IR spectra for material detection that uses not detectable by the naked eye IR spectra that is reflected for material detection). Further, it would have been obvious to a person of ordinary skill in the art to try to have the at least five plurality of narrow wavelength bands and it would have been obvious to try to have each wavelength band is between 20 and 50 nanometers in width. The rationale for this obviousness statement is that it would have been obvious to try, choosing from a finite number of predictable solutions. In the present case it would have been obvious to add more narrow wavelength bands in order improve efficiency of the function of the

Art Unit: 3653

apparatus or have the wavelength bands be within a range 20-50 nanometers in order to adapt to different materials that are to be detected.

4. Kumar as set forth above teaches all that is claimed except for expressly teaching applying the method applied to specific objects for sorting, such as CMYK-printed object, printed matter or cellulosic material, and analyzing objects using invisible wavelength spectrum as well as specific nanometer bands. The mere application of a known sorting method to other types of objects, however, is well-known in the sorting arts. Kumar already teaches a complex neural network system that can be trained to sort any object separable by spectral analysis by simply providing the specific inputs to the spectral analysis system and specifying outputs and also teaches that specific wavelength bands can be selected (col. 15, ln. 65 et seq.). Ulrichsen also teaches that this type of analysis can be applied to a wide range of materials and that both IR or visible light can be used dependent on the type of material to be sorted (col. 6, ln. 9-42). Thus, as the prior art teaches that the spectral analysis system of Kumar is readily adaptable to a variety of objects; the mere application of this method to a specific class of objects cannot be regarded as a solid basis of patentability. That is, one could have applied the known separation technique in the same manner to other objects and the results would have been predictable to one of ordinary skill in the art as this separation technique is part of the ordinary capabilities of one skilled in the art. See MPEP 2143. Further, the prior art discussed and cited demonstrates the level of sophistication of one with ordinary skill in the art and that the modification of applying the sorting method to specific types of material would be well within this skill level. Therefore, it would have

Art Unit: 3653

been obvious at the time the invention was made to a person having ordinary skill in the art to modify the invention of Kumar to sort a variety of objects for the reasons set forth above.

### ***Response to Arguments***

5. Applicant's arguments with respect to claims 70, 72, 73, 75-77, 79, 80, 82-86 and 150-159 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

7. A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3653

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kalyan Kumar whose telephone number is 571-272-8102. The examiner can normally be reached on Mon-Fri 7:00AM-3:30PM.
9. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Mackey can be reached on 571-272-6916. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.
10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Patrick H. Mackey/  
Supervisory Patent Examiner, Art  
Unit 3653

Kalyan Kumar  
Examiner  
Art Unit 3653